



PRIVATE NETWORKS IN HOSPITALITY AND VENUES

The adoption of private network deployments is on the rise, with the hospitality sector being no exception. This article delves into the utilization of private networks in hospitality and venues, examining the added value they bring to the customer experience.

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The increase in private network deployments in hospitality and venues

Private networks are increasingly being deployed across various industries globally, with the hospitality and entertainment sector being no exception. The sector has also been experiencing an increase in private network deployments particularly in the US where CBRS has opened up more opportunities. Deployments in this sector has been fuelled by recent developments such as the demand for low latency for immersive spectator experiences in large venues like stadiums, and AI applications used in hotels to increase customer satisfaction.

Several noteworthy examples of private network deployments in hospitality and venues are:

Smart Stadium Connectivity: Petco Park, a smart stadium in the US, installed a 5G private cellular network to enhance fan experiences. This network facilitates seamless connectivity for staff iPads and POS devices, optimising mobile transactions for concessions and merchandise. The frictionless mobile payment process has resulted in increased sales and improved customer satisfaction.

Hotel Guest Experience Enhancement: The Gale South Beach, a hotel in the US, has been using private networks to improve the hotel guest experience by providing high-speed voice and data coverage. This enables efficient indoor and outdoor connectivity, addressing the growing demand for video conferencing. The implementation of 5G streamlines operations, allowing for faster automated check-in and check-out procedures, reducing labour costs, and eliminating guest inconvenience.

NFL Season Coach-to-Coach Communications: Verizon's Private Wireless network facilitated coach-to-coach communications during the 2023 NFL season. This managed private wireless solution, initially piloted during the 2022 international NFL games, demonstrated the effectiveness of private networks in providing reliable and secure communication for in-game operational support.

Private LTE for Festivals and Events: Citymesh has partnered with TowerEye in Belgium to deploy private LTE (4G) networks at festivals and events. These dedicated 4G installations support various functions, including ticket scanning, contactless payments, and Covid checks. They also offer the flexibility to accommodate other mobile and IoT applications, with potential applications in broadcasting, as well as augmented and virtual reality (AR and VR) as highlighted by the partners.

What unique benefits do private networks bring in hospitality and venues?

The adoption of private networks is primarily driven by key factors in the context of hospitality and venues:

Enhanced security:

Isolation from public networks: Private networks provide isolation from public networks, mitigating the risk of unauthorised access and malicious actors. This is crucial in hospitality, ensuring the protection of guest data and financial transactions, especially with tightening regulations and increasing requirements around cybersecurity.

Customization and control:

Tailored network settings: Private networks offer a variety of customisation options to seamlessly align with the unique requirements of a venue. This includes the ability to prioritise specific types of traffic, finely control bandwidth allocation, and configure security parameters according to the venue's specific needs. Such adaptability is particularly advantageous for optimising costs, as the network can be effortlessly spun up on demand. This not only ensures significant cost savings during periods of lower activity but also translates into reduced latency during peak demand periods.

Reliable coverage in different types of areas:

Private networks are well suited to provide reliable coverage across both indoor and outdoor areas, making them ideal for venues with high ceilings, vast open areas, such as stadiums or concert halls. Fewer nodes are also required to cover the same area effectively in comparison to Wi-Fi for example.

Flexibility and speed of implementation:

Private networks can be rapidly deployed, making them well-suited for temporary events with short planning cycles. As mentioned, private networks typically require significantly fewer nodes to cover the same area compared to Wi-Fi. This is particularly critical for vast areas in terms of time required for implementation. This quick implementation ensures that the necessary connectivity infrastructure is in place, contributing to the smooth operation of the event.

Key use cases for private networks in hospitality and venues:

In the ever-evolving landscape of hospitality and entertainment, the implementation of private networks emerges as a transformative force, delivering an elevated service experience to customers. Beyond the immediate benefits of speedy connections, these networks unlock the potential of AI, IoT and edge applications, reshaping how venues interact with their customers.

Video analytics for various use cases

Private networks can play an important role in enabling edge AI-enabled video analytics to collect and process a huge quantity of visual data locally to quickly and reliably identify, analyse and track anomalies or incidents. The use of video analytics is applicable to almost all industries, including for hospitality and venues. Edge compute in this case ensures that companies comply to data privacy laws like GDPR in Europe by processing the live video footage locally, including in anonymising profiles and facial data.

- **Enhanced security and surveillance:** Video analytics enhances security and surveillance at venues by automatically detecting and alerting authorities to suspicious activities or potential security threats. By leveraging advanced algorithms, this technology enables rapid response and proactive measures, contributing to a safer and more secure environment for both patrons and staff at various venues.

- **Footfall analysis and crowd management:** Video analytics plays a crucial role in footfall analysis and crowd management at venues by employing advanced algorithms to track and analyse the movement patterns of individuals. This technology not only provides real-time insights into crowd density and flow but also aids in optimizing security measures and resource allocation for a more efficient and secure venue experience.
- **Hazard detection:** Video analytics serves a crucial role in hazard detection at venues by employing machine learning algorithms to identify potential safety risks, such as spills or obstructions. This technology enables prompt notifications and pre-emptive actions, ensuring a swift response to hazards and contributing to a safer environment for attendees and staff at various venues.

Cashless payments

Connected wireless payment terminals offer significant value in venues by providing a convenient and efficient payment experience for customers. These terminals enable quick and secure transactions, reduce queues, and enhance overall customer satisfaction while offering businesses real-time transaction data and insights. Given the sheer number of people that events and hospitality venues have to cater to, transactions need to be made seamlessly with minimal delay. Private networks play an important role in ensuring the secure and reliable operations of wireless payment terminals.

Live video broadcast

For events, private networks coupled with edge computing play a pivotal role in live video broadcasts, ensuring reliable and low-latency connectivity that is essential for delivering high-quality streaming experiences. By offering dedicated and secure communication channels and bringing the processing of data closer to the source, this empowers broadcasters to transmit live content seamlessly in real-time, minimising disruptions and enhancing the overall quality of the viewing experience for audiences.

Service robots

In the hospitality sector, service robots are **increasingly used** for enhancing guest experiences, and private networks play a crucial role in supporting their various applications. Private networks ensure the secure and seamless exchange of data, enabling robots to streamline processes such as check-in, room service, and personalised concierge services. These networks contribute to the coordination and efficiency of cleaning and maintenance robots by facilitating real-time communication and updates. Additionally, in areas like entertainment and event assistance, private networks empower robots to engage in interactive experiences and efficiently manage tasks during events. Whether it's ensuring the privacy of health monitoring data or enabling multilingual support, private networks form the essential infrastructure that enhances the capabilities of service robots, fostering a technologically advanced and secure hospitality environment.

Access control and efficient check-in

Delays in check-in time have always been an issue for venue or event organisers. Connected access terminals provide immense value for customer check-in by streamlining the process and enhancing efficiency. These terminals facilitate a seamless experience, allowing customers to check in swiftly, reducing wait times, and providing businesses with real-time data for improved operational insights and customer service. Private networks provide reliable coverage and connectivity for stewards with access terminals for customer check-in to minimise any potential delays stemming from drops in connection or quality degradation or congestion.

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